

CLAIMS:

1. A solution of a precursor for the pyrolytic formation of a tin-containing coating comprising stannic hydroxychloride.
- 5 2. The solution of claim 1 wherein said stannic hydroxychloride is a non-stoichiometric compound expressed by the formula $\text{Sn}(\text{OH})_{2+x}\text{Cl}_{2-x}\cdot n\text{H}_2\text{O}$, wherein the Cl:Sn molar ratio is comprised between 1 and 1.9.
3. The solution of claim 1 wherein said stannic hydroxychloride is a compound expressed by the formula $\text{SnO}(\text{H}_2\text{O})_n\text{R}_{2-x}\text{Cl}_x$, being R a preferably
10 organic substituent.
4. The solution of claim 3 wherein the Cl:Sn molar ratio is comprised between 1 and 1.9.
5. The solution of claim 3 or 4 wherein R is the acetic group ($\text{CH}_3\text{COO}-$)
6. The solution of any one of the previous claims further comprising a
15 precursor of at least one noble metal.
7. The solution of claim 6 wherein said precursor of at least one noble metal is a chlorinated precursor of iridium or ruthenium.
8. The solution of claim 7 wherein said chlorinated precursor of iridium is H_2IrCl_6 .
- 20 9. An anode provided with an electrocatalytic coating comprising tin, preferably tetravalent and in form of mixed oxide, prepared by pyrolysis of a solution of any one of the previous claims.
10. The anode of claim 9 wherein the electrocatalytic coating is deposited on a substrate of a valve metal, preferably titanium or a titanium alloy.
- 25 11. The anode of claim 10 wherein a ceramic pre-layer is interposed between the coating and said substrate.
12. The anode of claim 11 wherein said ceramic pre-layer comprises titanium dioxide.
13. The anode of any one of claims 9 to 12 wherein said coating has
30 electrocatalytic properties toward the chlorine evolution reaction and said at least one noble metal is ruthenium.

14. The anode of any one of claims 9 to 12 wherein said coating has electrocatalytic properties toward the oxygen evolution reaction and said at least one noble metal is iridium.

5 15. A method for the manufacturing of a precursor solution for the pyrolytic formation of a tin-containing coating comprising the addition of hydrogen peroxide to a stannous chloride solution, optionally under temperature and redox potential control.

10 16. The method of claim 15 wherein the Cl:Sn ratio in the solution is decreased by subsequent reduction of metallic tin and further addition of hydrogen peroxide, optionally under temperature and redox potential control.

17. The method of claim 15 or 16 wherein said stannous chloride solution further contains a precursor of an organic substituent.

18. The method of claim 17 wherein said precursor of an organic substituent is acetic acid.

15 19. A method for the manufacturing of an electrode comprising the application of the solution of anyone of claims 1 to 8 to a substrate of a valve metal, preferably titanium or titanium alloy optionally provided with a ceramic pre-layer followed by the execution of a thermal treatment.

20 20. The method of claim 19 wherein said application of the solution is effected in multiple coats, each followed by a thermal treatment.

21. The method of claim 19 or 20 wherein said thermal treatment is a pyrolysis at a temperature comprised between 350 and 800°C, optionally preceded by a drying at a temperature comprised between 80 and 200°C.